

THE OPTICAL MAGIC LANTERN JOURNAL AND PHOTOGRAPHIC ENLARGER.

EDITED BY J. HAY TAYLOR.

Vol. 2.—No. 16. [Entered at Stationers' Hall.] SEPTEMBER 1, 1890. Price One Penny.

CONTENTS.

PAGE.	PAGE.
Notices 25	Photomicrographic Lantern
Notes 25	Transparencies for Historical Teaching and Research 29
Some Small American Lanterns 26	A few Hints on Amateur (Comic) Slide Making 30
Hand Cameras for Obtaining Slides for the Lantern—No. 5 28	Editorial Table 31
Transparencies at One Operation 28	Correspondence.—New Oxygenium Light—Information 32
Lost Light 29	Notes and Queries 32
Camera Club.—New Premises 29	

CONTENTS OF No. 15.

Notes—Toning Transparencies—Hand Cameras for Obtaining Slides for the Lantern (No. 4)—Comparison of Illuminants—"Made Up" Statuary Slides—Mat Trimmers for Lantern Transparencies—Large Lenses v. Small Lenses—To Prevent Softening of Negative Films in Hot Weather—Editorial Table—Light for the Lecturer's Desk—Correspondence (British Photographic Union—Another New Light—Screens—Headquarters of the Lantern Society)—Society Meetings—Selections—Notes and Queries.

Notices.

THE *Optical Magic Lantern Journal and Photographic Enlarger* is issued on the 1st of every month, price One Penny, and may be obtained from all Newsvendors, Railway News Stalls, Photographic Dealers, or from the Publishers, at the following rates, post free :—

	Continental.	United States.
12 months ... 1/6 ... 2/	60 cents.	
Single copies ... 1/12 ... 1/2	6 "	

Advertisements (Scale of Charges), displayed :—

	£	s.	d.
Front page, by arrangement.			
Ordinary page, facing matter (whole) ...	3	0	0
" " " " (half) ...	1	15	0
" " " " (quarter) ...	1	0	0
" " " " (eighth) ...	10	0	
" " per 1 inch in column ...	6	0	
" " " 1/2 " " " ...	3	0	

Special quotations for a series.

Exchange Column, General Wants, &c. (not Trade)—

First 20 words, 6d.; and for every 3 additional words, 1d.

Advertisements must reach the office not later than the 24th of each month. All cheques and postal orders to be made payable to Taylor Brothers.

Editorial communications must be addressed, The Editor; advertisements and business communications to Taylor Brothers, care of the Publishers, Dorset Works, Salisbury Square, Fleet Street, London, E.C.

American Agents :—The International News Co., 83 and 85, Duane Street, New York City.

Notes.

THE British Association for the Advancement of Science will meet at Leeds on the 3rd inst., under the presidency of Sir Frederick Abel. Arrangements have been made with many of the factories in that town to enable a tour of inspection to be made by the members.

THE Brins Oxygen Company intend extending their business to the United States. Mr. Clarke, who has been to America in the interests of the company, has lately returned to this country on a visit. On his arrival at New York, it is expected that "a plant" will be in working order.

THE name of the East Dulwich and Peckham Photographic Society has been changed to the South London Photographic Society, they now meet at Hanover Hall, Rye-lane, S.E. On October 6, the members will entertain their friends with a lantern evening.

THE Quadrant hand camera, a description of which appeared on page 3 of the present volume of this journal, has recently had a beneficial addition made to it. By means of a small stop it is now possible to withdraw the reservoir containing the exposed plates at any time without waiting until all the plates have been exposed. This enables one to withdraw for development any exposed plate that may be desired.

THE Exhibition in connection with the Edinburgh Photographic Association will be held at the Royal Scottish Academy's National Galleries, from November 14, 1890, until January 7, 1891. No charge is to be made for space. Lantern illustrations will take a prominent part.

A TRADE mark, consisting of a triangle, in which is a Y with a snake entwined to form S, has been adopted by Messrs. York and Son, of Notting Hill, W. This will in future be placed upon their lantern slides. We note that this firm have secured the right to reproduce as lantern

slides the illustrations from the *Graphic* and *Illustrated London News* of Stanley's expedition, and have also arranged a set from direct negatives, entitled "The East Coast of Africa, from Natal to Zanzibar," which we hope to have the opportunity of describing in the near future. Several other new and interesting sets have also been introduced, particulars of which will be found in their advertisement on another page.

THE business, goodwill and stock-in-trade of Samuel Fry and Co., Limited, have been purchased by Messrs. S. Herbert Fry and A. E. Hayman, who will continue the business, both at Chandos-street, Charing Cross, W.C., and Kingston-on-Thames, under the name of the Fry Manufacturing Company.

AN open-air lantern entertainment calls for management of a different nature compared to that in a hall. However, Mr. E. H. Stevenson, of Norwich, proved himself quite equal to undertaking such a task, and on August 14th gave an exhibition to an audience of five thousand persons in the dell of the picturesque grounds of Mr. H. Trevor, of Norwich. We understand it was a great success.

THE exclusive right to reproduce as lantern slides the pictures in Stanley's new work, "In Darkest Africa," has been purchased by Messrs. Newton & Co., 3, Fleet-street, E.C., who are now engaged upon writing a lecture to accompany the set, and hope to have everything completed and published in a few weeks. From correspondence we have had from various parts of the country, it appears that there have been numerous applicants for this "right."

MR. H. RANSOM, of 122, Newington Butts, London, S.E., has devised a convenient table copying apparatus, capable of taking sizes up to 12in. by 10in. Half or whole plate size measures opened 3ft. 3in. by 8in. by 12in., whilst closed it occupies 18in. by 8in. by 2in. A full description (with drawings) will appear in next issue. This instrument will be found extremely useful for lantern slide work, and in fact copying in any form.

Some Small American Lanterns.

At a lecture given at the Camera Club, by Mr. Andrew Pringle, a few months ago, he alluded to some of the lanterns used now-a-days as "cottages," and at the same time exhibited a small compact lantern he had lately had made, which folded up into a box one foot square. Certainly

the element of handiness is to be considered when one is desirous that a lantern outfit can be contained in a convenient hand package, and there are certainly many reasons in support of this.

Our American cousins have come to the conclusion that many of the lanterns in use were considerably larger and more bulky than there was any necessity for, and several firms have been striving towards the reduction of size, and consequently weight. The efforts thus far appear to be devoted to single lanterns, for both bi-unials and triples must necessarily occupy considerable dimensions.

We have been enabled, through the kindness of the firms mentioned, to give our readers an idea of some of the leading styles of single lanterns for both oil and limelight as employed in the United States.

Ives' Patent Folding Portable Lantern, of which C. T. Milligan, of Philadelphia, United States, is the maker, is of striking appearance, there being no unutilised space. As rigged up for use, it presents the appearance of Fig. 1. The woodwork is of polished mahogany; the body, which contains the light and to which the condensers are attached, is of Russian iron, the door being in the rear; whilst due provision is made for ventilation.

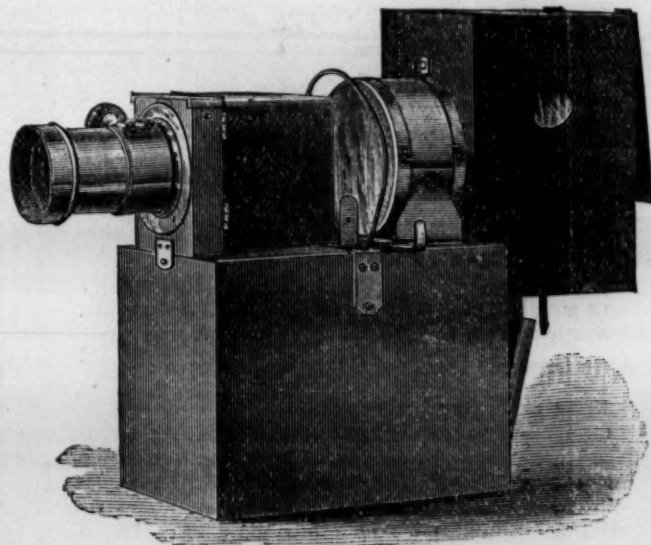


FIG. 1.

The mountings are of polished brass, and the lantern itself is adapted for either oil or limelight. When the lantern is to be dismantled and packed up, the parts are liberated by a series of clips, and placed inside of the mahogany box, which measures 8½in. long, 6in. wide, and 6½in. deep; the whole when packed forms a very convenient package, as it only weighs in the vicinity of 8lb. It is certainly very handy to be able to pick up a package of small weight and size containing the complete lantern.

An oil lantern in which all superfluous parts are dispensed with, is made by the Elliott-Clymer Co., Auburn, N.Y. This style (Fig. 2) they say has been designed to meet the wants of those amateur photographers who wish a simple and practical lantern for home use. The framework is of mahogany, and the cone and chimney of Russian iron, and the fittings of brass. The condenser is $4\frac{1}{2}$ in. in diameter.

This lantern, in addition to exhibition work, is fitted for receiving negatives for use for

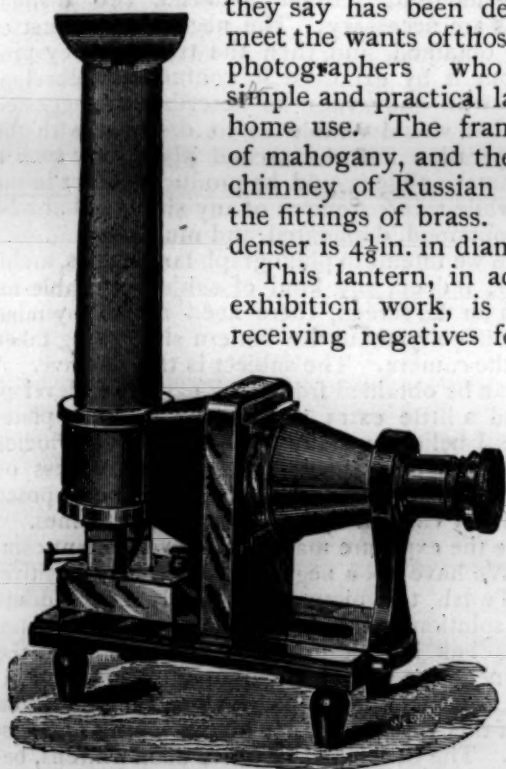
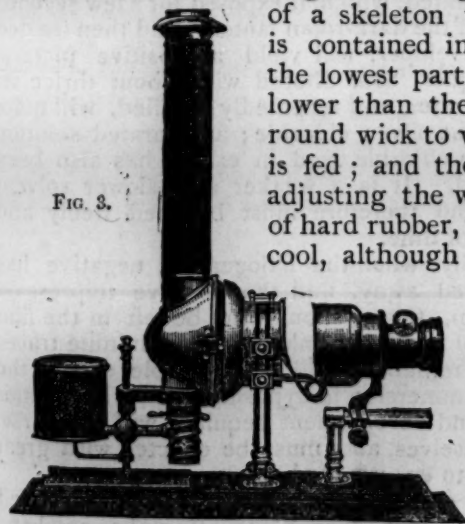


FIG. 2.

making bromide enlargements. The whole packs into a box measuring 8 in. by 14 in. by 12 in.

Messrs. J. B. Colt and Co., New York City, N.Y., make a speciality of Parabolon lanterns, both for oil and limelight. In Fig. 3, which is

FIG. 3.



of a skeleton type, the oil is contained in a reservoir, the lowest part of which is lower than the part of the round wick to which the oil is fed; and the handles for adjusting the wick are made of hard rubber, which remain cool, although the adjacent parts may become hot. The lantern stand is 19 in. long by 8 in. wide, and contains three supports,

upon which can be adjusted the lamp, condenser, and objective. A spun brass hood connects the lamp and the condenser.

enclosed. The negative from which an enlargement is to be made may be secured in the desired position by a lever shown in the cuts.

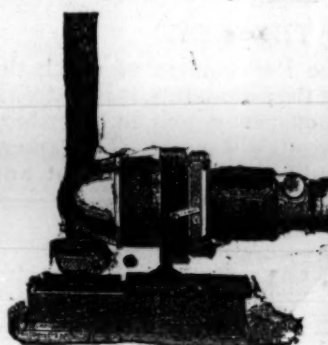


FIG. 4.

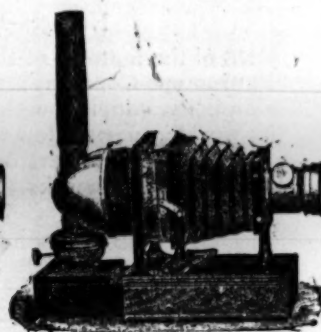


FIG. 5.

Limelight can also be used in the Parabolon lanterns, and as the illuminating chamber is detachable, it is only necessary to substitute one back for the other. This chamber (Fig. 6) is supplied with both vertical and lateral motions, so that it can readily be adjusted to the condensers.

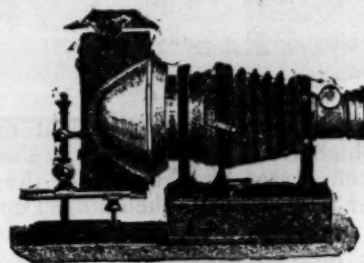


FIG. 6.

Although Messrs. Colt assure us that the parabola is the best form of reflector for lanterns, we fail to see how they overcome the confusion which will be caused by two sets of rays, one set of which will be from the direct light, whilst the other will be from the parabola.

A lantern balanced on a swivel joint has been introduced by Charles Beseler, of New York City. The body consists of a tube of Russian iron of $4\frac{3}{4}$ in. in diameter, with hinged doors both at side and back. A well is provided for allowing the jet to be sunk a sufficient distance, and the lens is mounted to the end of a metal cone.

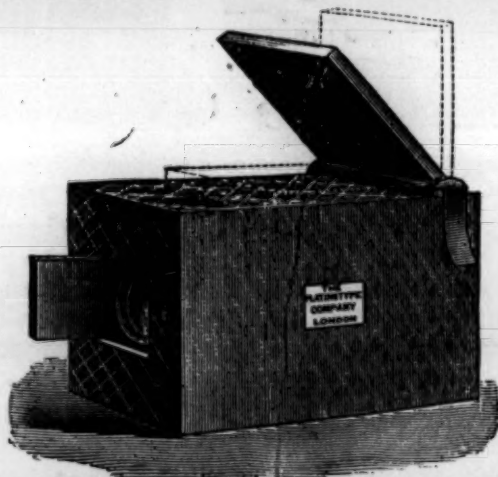
As the centre of gravity lies immediately behind the condenser, the lantern is here secured to a single upright, which is attached to a stand. By means of the swivel joint this lantern can be readily turned or tilted as required.

The foregoing remarks and illustrations will give our readers an introduction to some shapes of single lanterns with which they have perhaps been previously unacquainted, and on some other occasion we hope to give a few particulars on the styles of bi-unials in use in America.

Hand Cameras for Obtaining Slides for the Lantern.

No. 5.—"THE KEY."

ONE of the features of the Key camera of which the Platinotype Company are the proprietors, is its extreme simplicity, coupled with efficiency, and in describing its working parts a few words will suffice. The camera will be readily understood from the annexed cut, and the following remarks.



The plates are contained in light metal double carriers, which are secured in place by simply pressing the spring clips seen at the side of the instrument. The carrier thus placed is then hinged up as seen in the dotted lines; by this movement two operations take place automatically—a light-tight trap in the carrier opens and the plate is received in the focussing plane. Provision is made, in the event of an extra thin plate, whereby a spring can press it up to focus, and this can be used or not according to circumstances; however, a quarter turn of a small knob suffices to bring the spring into action.

After exposure, the camera is reversed, and the plate again enters the carrier. The dark slides are extremely light, and pack together so closely that several may be placed in one's pocket.

The lenses are rectilinears of first quality. The shutter works between the lenses, and can be regulated from a fraction of a second to 60 seconds, and acts as a diaphragm during the opening and closing.

The front combination of the lens slides out to permit of the use of any desired stop being employed. The release for the shutter is a small knob, which is sunk to the level of the outside of the camera.

By the aid of a milled head, which projects just sufficiently for the finger to operate, the lens may be focussed for varied distances, according to a graduated scale at the side of the shutter release.

The camera is light and unobtrusive, is provided with a handle for carrying, and is finished in dead black mahogany, with a series of cross hatchings which give it the appearance of being covered with leather, without the disadvantage that leather after it becomes worn begins to fray at the junctions. This, however, is obviated by the manner in which the key camera is finished.

Transparencies at One Operation.

IN making a transparency on a gelatine plate, according to the mode at present followed, two distinct operations are necessary. The negative has first of all to be obtained, and then the transparency produced from it by exposure in contact and development. I will endeavour to describe a suggested method that would enable us to dispense with the second operation and the second plate. By such a method lantern slides could be produced direct in the camera, while transparencies of any size could also be similarly obtained, duplicated, and multiplied.

Suppose we intend to photograph landscapes, architecture, or, indeed, any kind of subject suitable for projection on the screen, there need not to my mind be much difficulty about the lantern slide being taken direct in the camera. The subject is the positive. A positive can be obtained from it by exposure, development, and a little extra procedure. Lantern plates which are, I believe, usually coated with bromo-iodide emulsion averaging about 14 deg. sensitiveness on Warnerke's sensitometer, can, of course, be exposed in an ordinary camera by employing inner frames.

Imagine the exposure made and development completed. We have got a negative and desire a positive. First, well wash the picture and apply a very dilute clearing solution of hydrochloric acid and alum. When this has been thoroughly removed flood the (unfixed) negative with a solution of potassium bichromate and hydrochloric acid, as recommended on page 19 of this volume for use in the toning of transparencies. The developed negative soon whitens, becoming changed to silver chloride. When the bleaching action has gone to its uttermost, remove the solution and well wash the plate.

Now, if the chlorised picture be entirely removed there will remain, wherever the light and the developer have failed to penetrate, a layer of unaltered haloid, perfectly graded, which, if exposed for a few seconds to the light of the dark-room lantern, and then treated with the developer, will yield a positive picture. Ammonia liquor '880, diluted with about thrice its own bulk of water, and repeatedly applied, will quite dissolve off the silver chloride; a saturated solution of ammonium chloride used in excess has also been recommended. It is a weaker and slower solvent than NH_3 , and therefore must be used freely and given plenty of time.

Theoretically, when the halogenized negative has been dissolved away, and the positive impression developed up, there should not be left in the film any portion of unaltered haloid, but as minute traces may possibly remain, it will be advisable to give the plate a brief immersion in hyposulphite. The niceties of exposure and development required will, of course, suggest themselves, and must be effected with great skill in order to ensure good results.

For hand camera work the method suggested would, I fear, be a case of counting the chickens before they are hatched. Apart from the fact that such pictures are not always suitable for lantern illustration there is such an interesting element of uncertainty about the important preliminary of exposure that it would be wise to ascertain if a negative had been secured before thinking about the positive.

WM. D. GREEN.

Lost Light.

OFTTIMES, when employing artificial light for enlarging or for other photographic purposes, it is requisite to place ground or other glass in front of the light in order to obtain more even illumination, but due allowance must, of course, be made in the time of exposure, as a certain percentage of the light is lost in passing through certain mediums. Although in ordinary clear glass the loss may be 10 per cent., the loss when ground glass is used will range from 25 to about 50 per cent, whilst opal glass will prevent about 60 per cent. from passing through.

J. R.

Camera Club.—New Premises.

WE have received copies of the elevation and plans of the new premises of the Camera Club. This commodious building has a frontage of about 50ft. on Charing Cross-road, and about the same on Cecil-court. A letter, which accompanied the plans, says :—

"The entrance to the club is near the left corner of the building. On passing the glass swing-doors, the porter's lodge will be found on the left, and beyond that a stone staircase leads to the floors above. To proceed first to the basement. On reaching the bottom of the single flight of stairs, we find a room containing the furnace, which will supply hot water to the whole of the house, and beyond that the servants' lavatory and dressing-room.

"The second floor on the right leads to the cellars. The passage from which these doors open will contain a number of lockers, where members can keep their photographic materials. To the left is the daylight work-room. This is lighted from the roof, and will contain a sink, extending along one side of the room, with a number of taps for cold and hot water. This room is intended for washing negatives, developing platinotypes, toning, and all other operations not requiring a dark room. Opposite this room is a long passage, giving access to nine dark rooms.

"On the first floor, on the left of the landing, is the cloak-room, whilst a door on the right leads to the still-room. Opposite the staircase is the entrance to the principal room, a handsome hall, 43ft. by 26ft., and 14ft. 6in. high. The manager of the optical lantern has obtained his heart's desire in having a space of the wall, 9ft. square, painted white, in place of a movable screen, for showing slides.

"Above the cloak-room a mezzanine has been arranged, which provides further accommodation for hats and coats.

"On the second floor a third cloak-room, with lavatories, is provided. The passage leads from the landing to the dining-room on the right, the billiard-room on the left, and to the library at the end. The height of this floor is 12ft. On the third floor the building becomes much shallower. A corridor similar to the one below leads on the right to the committee and secretary's rooms, on the left to the leads above the billiard room and to the workshop or lathe room.

"The fourth floor is entirely taken up by the kitchen and other offices, and a bedroom and a living room for a resident servant.

"On the fifth floor is a good enlarging room, with a dark room attached, and a fine studio 27ft. long by 16ft. wide, with a dark room.

"A lift large enough for carrying coals and communicating with each floor from the basement to the kitchen will be provided, also speaking-tubes and electric bells. The house is to be wired for electric light, and a sufficient sum has been provided for the decorations, which will, however, not be added until next year."

—:o:—

Photomicrographic Lantern Transparencies for Histological Teaching and Research.

THE varied illustrative methods now before the public for the purpose of education in one or other of its branches, have not any greater than the optical lantern. It appeals to all classes, from the youngest to the oldest, or the unlearned to the *savant*. Although for a long period it was but a scientific toy, chiefly used for the amusement of young people, yet it, with its many accessories, has for some time past emerged from this toyship and now ranks high in all branches of education as a method not by any means below the recognition of those who advance with the world's progress.

The optical lantern has not been, and is not now, entirely dependent upon the photographic art for its popularity, although it must be admitted that the art has very materially assisted in the popularity of the lantern. This advancement is to some extent attributable to the use of dry plates, both for negatives and for lantern transparencies. These transparencies, however, do not convey all that is desired of them. They lack colour. To colour such slides is usually a tedious and somewhat expensive adjunct if it is intended that the colouring shall, as near as possible, represent the subject portrayed.

With regard to objects under the microscope, used for class purposes in medical schools, they are generally stained sections of physiological, anatomical, or pathological subjects. They are stained in the majority of cases with one, two, or three stains.

Professor J. Alfred Scott, M.B., F.R.C.S., of Dublin, and vice-president of the Photographic Society of Ireland, has of late been experimenting for the purpose of making coloured micro-photographic lantern slides of subjects suitable for medical class illustration, and having a very close resemblance to the objects as usually seen under the microscope after they have been stained. The following is a *precis* of a paper read by him before the British Medical Association, held at Birmingham, on July 30, in which he carefully details the methods pursued to obtain the beautiful results which were exhibited to the members in illustration of his remarks.

"During the autumn of 1888, some lantern slides, published by the Woodbury Company, were shown to me. Among these were a few anatomical preparations which strongly suggested to me the propriety of using such a means of illustrating my lectures, as the ordinary form of diagram is not satisfactory for many reasons. As there were not any anatomical photographs of any real use in the market I had to devise a means of taking them. I know that there are many photomicrographic cameras made by opticians, but most of these appeared unnecessarily complicated, and I thought that some modification of a small camera I devised in 1883 might be adopted. This small camera was

intended to fit on the top of the microscope, where it could be placed if anything notable were observed in the field. The plates were small, being two and one-eighth of an inch by one and five-eighths of an inch, much too small for useful lantern slides. It was capable of taking sharp pictures. The camera used for all my subsequent work was practically the same camera, but elongated about fifteen inches. This gave a picture about three inches square, and yet was sufficiently short to allow working all the microscope adjustments while focussing the picture. For convenience and steadiness the camera (except in special cases) was arranged parallel with the table, instead of being placed on the microscope and regardless of the position of the latter.

"At the outset it may be well to disclaim any idea in connection with these slides to be shown other than that of lecture diagrams. In many cases detail, &c., was deliberately suppressed, and some appearances exaggerated to make the remainder more diagrammatic, but there was nothing more done than would be allowed in the staining and mounting of the specimens, had they been specially prepared with the intention of taking photographs from them. Some which were mounted with that intent were so stained as only to exhibit the particular point wished to be shown, and to keep the remainder of the tissue only suggested.

"The actual photographic work was in most cases easy, the ordinary methods being employed; in other cases, however, the special isochromatic plates were necessary on account of the stain employed in mounting the sections.

"The greatest difficulty was in the selection of the objects to be photographed. We all know that it is possible to cut fifty or a hundred sections of almost any tissue, and give one to each member of a class, each student receiving a fairly typical section, sufficient to demonstrate the various points described; but if we were restricted to a point in one section, such as occurs when a photograph is indicated, there might not be a single specimen in these sections that would be quite satisfactory. Hence I had to exercise more care in the selection of the slide than anything else, and in some instances to delay a considerable time before I obtained a sufficiently good section to make a diagram. In other cases I found a special process useful in more closely imitating the colours of the stained sections, which I shall now briefly describe.

"During the early part of 1889 I was shown some beautiful photographs on Leisgang's aristotype paper of the spinal cord taken by Dr. Ringrose Atkins, of Waterford. They were of such a brilliant tint as to give a very correct idea of the original specimens when treated by some staining agent. Some correspondence ensued between us, in which he very kindly explained the process he had adopted. I made a few modifications in the process, adapting it specially for lantern slides, and then found that the process could be extended into other colours.

"Dr. Atkins' process consisted in toning the silver image with ferro-cyanide of uranium, the completed slide well washed in alum to remove the sodium. This sulphate from the gelatine was placed in a bath composed of equal parts of a 1 or 2 per cent. solution of potassium ferrid cyanide ($K_3Fe(CN)_6$), and a 6 per cent. solution of uranium nitrate. M. HEDLEY.

(To be continued.)

A Few Hints on Amateur (Comic) Slide Making.

THESE few lines are written chiefly for the *pure* amateur. Many amateurs, as they please to style themselves, run the professionals very close, and can afford to skip this article. I wish to be brief and spare the excited amateur—they generally are excited over their hobby—the time and trouble of reading useless matter. All I hope for in again bringing this subject forward is that I may possibly manage to clear a few doubts that may have remained after perusing former articles.

Requisites.— $3\frac{1}{2}$ in. by $3\frac{1}{2}$ in. glasses, Indian ink, crow-quill pen, subjects to copy, paints, varnish, and for some slides I find a good thing to throw up effect of slide, dense black varnish.

All of these may be obtained at any vendor of lantern articles, except subjects to copy. One word of warning: mind the paints you buy. Buy boxes of paints expressly made for the purpose of painting slides. I obtained a yellow once *said* to be transparent. I used it as yellow, and I mixed it with my green; the result, when I tried the set of five slides, was, to say the least, painful.

Concerning subjects, there is now no need to be at a loss. *The Boys' Own Paper* supplied me at times; *Pick Me Up* and other weeklies often gave a suitable picture. The amateur, however, does not want to have the trouble of reducing the pictures, so if he wants a good selection of suitable sized pictures let me recommend the new halfpenny weekly, *Comic Cuts*.

Choose your picture, clean your glass. I cannot afford luxuries, and so just wipe it clean with linen duster after washing. Mix a little Indian ink, say in an inverted egg-cup. Lay glass over picture on a flat table. Trace outline with your fine pen and Indian ink. Breathing on the glass aids the flow of ink. Take care, however, as the outline is being traced that the eye is kept directly over point of pen, otherwise the thickness of glass will cause the picture to be out of all proportion. The thicker the glass the greater the disproportion.

If you are doing a series or set, outline all of them first. I say this because it will save both time and paint when you come to colour them, for when you have a colour mixed common to all, you can lay that colour on each glass before mixing another. It may also save you the mortification of finding that in one slide a boy's cap or jacket are one colour, and in another slide of same set the colour has altered.

Now the amateur must have a desk to paint on. One I made cost about threepence. If you go to buy they will charge you twelve to twenty times as much; and as the magic lantern is a costly hobby, make your own desk. Get a flat lath (used for blinds) and a piece of plain glass, 6 in. by 6 in.; take two pieces of lath, 9 in., for sides; two others, 6 in., for top and bottom; nail together so as to leave space for glass. In the inside of top and sides I nailed small pieces for glass to rest on, and on upper surface held glass in place with small tacks or nails. Across bottom of glass I nailed a flat strip to ledge slide on, and on each side another strip, 7 in., for rest, and allow easel to slope in any position. It may be placed on a table-cloth, and will not slip, and a piece of white paper under it

will throw the light up through your painting. Take care, however, to face the light whilst at work, so that light may be reflected up to your work.

Now before colouring let me say that practice only makes perfect. I have *watched* an artist at work and gained little benefit. Spoil a few glasses, waste a little paint and time, but persevere, and you will find that the practice was hardly waste.

Gather together all the old Christmas cards, infants' coloured toy books, coloured advertisements, &c., you can—in fact, any *common* coloured card or picture. Let the Christmas cards you collect be the very common ones. You do not yet want first-class work. You must walk before you run. Whatever are the cards and odd pictures for? They make excellent models. You want to colour the figure of a little boy? Look among your hoard of cards for the *most highly* coloured youngster, and *imitate* the colouring. In common cards the colours are not blended as in those of a high class; hence your work is simpler. Whatever you desire to colour, see if you cannot find something similar amongst your collection of old cards.

I will here give you a few colours.

For complexion use a touch of scarlet lake and yellow. Mix well with medium supplied with the paints or with mastic varnish. Before applying colour to picture, put a little on glass of desk and look at it. If then you cannot make up your mind put some on a glass, and place in lantern, and examine it on the screen. This colour may be placed all over face, because lips, eyebrows, &c., may be coloured over it, as they will be a deeper colour. Grey is formed of two-parts white to one black. For the cheeks place the tip of brush in scarlet lake, and just touch centre of cheek; then spread it by touching it with the tip of finger. With a little care this will answer every purpose. The lips may be done similarly. Hair may be either black or dense brown. Wavy hair may be obtained by making the brush revolve in very small circles. On larger surfaces of colour a "dabber" will be useful. To make one, get a bit of an old white kid glove, or a piece of wash-leather. Let it be clean, fold it so as to get a somewhat level surface, and dab the colour till you get it even. This will be useful in making chromatrope glasses. If any very white part is required rub the paint off with a brush dipped in turps. Sometimes a touch with the tip of finger is sufficient. At other times the point of a needle or penknife will be required, as, for instance, to pick out the whites of the eyes or clear the teeth, if they must show. For with an amateur of the elementary class the paint is apt to go where it is not wanted.

A few minutes is sufficient to copy a slipping slide or chromatrope, which may be in your possession. Lately I went to purchase a chromatrope, and when I got home drew carefully on paper two other designs I had seen. Slide manufacturers will not mind; they know you cannot equal theirs, and if you want to show good slides you must hire good ones or buy.

I was lately at a display, and the final slide, "Good-night," reminded me of the advertisement of Field's candles, sent out at the back of various monthly magazines. I instantly set to work with glass, advertisement, and mastic varnish. I varnished the advertisement face downwards on glass, left it to dry for two days. I then rubbed off the back of the picture with wet finger, taking care not to take too

much. I finished with fine sand paper. When as thin as I thought safe, I scratched and cut with knife and needle the legend, "Good-night," one word on each side of head. This was done backwards. After this I varnished again with mastic varnish, and on placing in lantern was delighted to see that my labour was not in vain.

HILTON GRUNDY.

Editorial Table.

CLIP FOR TUBING.—A "grip" clip has been introduced by Mr. J. H. Steward, 406, Strand, W.C., which affords a ready means of securing rubber tubing to metal or other mounts. It is made of brass and steel, and can be readily placed upon a piece of tubing by unscrewing it, as in Fig. 1, after which it is tightened

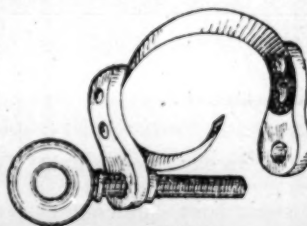


FIG. 1.

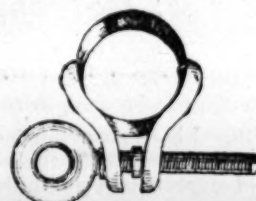


FIG. 2.

until it assumes the shape of Fig. 2. Although the tubes may be of varied sizes, the spring forms a circle, and so clamps evenly. We have tried them, and find that they form a ready and convenient means of securing rubber tubing. Those who have hitherto used string or wire for tying the tubing on lantern jets, &c., will find this clip to be a most useful adjunct to a lantern outfit. In addition to lantern work there are varied uses in which a clip of this nature will be found invaluable.

SLIDE BINDERS.—Sometime ago we stated that Mr. W. C. Hughes, of Mortimer-road, Kingsland, had brought out a metal binder for lantern transparencies, on which the glass was placed and the edges bent over. A binder of the same shape has lately been placed before the public by the same firm, the new one being of dark-coloured paper already gummed. The binder having been dampened, it is placed in position upon the glass, and the edges bent over. No trimming is required, and when mounted, the slides present a neat appearance, the fit at the corners being accurate.

ROUCH'S BEECHEY DRY PLATES.—These plates are well adapted for transparency work, and they give a pleasing tone. As they are coated with a preservative, it is necessary before proceeding with development to remove this by pouring upon the plate a little methylated spirit and water, then slightly rinsing. Either pyro or hydroquinone developer may be used, black tones being produced with the latter. These plates, which are packed in grooved boxes, may be obtained in various sizes, from $3\frac{1}{4}$ by $3\frac{1}{4}$ up to 12 by 10. At Messrs. W. W. Rouch's establishment, 180, Strand, a fine collection of transparencies (in these plates), of a variety of pleasing tones, may be seen.

CATALOGUE (GRIFFIN AND SONS, LIMITED).—Under the managership of Mr. Robert C. Murray

(formerly of Murray and Heath), J. J. Griffin and Sons, Limited, have opened an extensive photographic department, and the catalogue recently issued is before us. It is a comprehensive book of nearly 200 pages, in which will be found particulars and prices of all makes of cameras, lenses, enlarging lanterns, shutters, stands, &c. In looking over the catalogue the difficulty would seem to be to think of anything photographic which is *not* contained in its pages. An ingenious miniature outfit for Alpine photography, invented by Mr. Murray, consists of a stand, which is at once an alpen stock, an axe, and a camera-stand, upon which can be surmounted a small camera. The catalogue is clearly printed in brown ink on cream-coloured paper, and is profusely illustrated. Several pages are also devoted to formulæ.

Correspondence.

NEW OXY-CALCIUM LIGHT.

[To the Editor.]

SIR,—I have always understood that an oxy-calcium light, in contradistinction to the oxy-hydrogen, was produced by a jet of oxygen playing through a spirit lamp flame on to a piece of lime. Mr. Scott in a letter in your columns says in effect that he has so simplified the oxy-calcium jet that he has been enabled to dispense with coal-gas. I have never heard that coal-gas can be used in the oxy-calcium jet. But, of course, the oxy-calcium jet strictly means oxygen supplied to a flame which thus plays on a lime.

Seeing, then, that the word "oxy-calcium" may stand for "limelight," and by Mr. Scott's letter it may mean a jet in which gas is employed, consequently might be a form of blow-through or mixed jet. Can you enlighten me as to the style of jet, and also the nature of the improvements? If it is an oxy-calcium (according to the general acceptance of the word) that will give 300 c.p., then I think I may say the advent of the improved jet will be looked forward to.—Yours, &c.,

LUX.

Bristol, August 15.

[We understood Mr. Scott's letter to mean that he had an improved oxy-calcium jet, which *kind* of jet required no coal-gas, and not that the *improved* form dispensed with coal-gas. Perhaps Mr. Scott will give us a description of his new jet for next issue?—ED.]

INFORMATION.

[To the Editor.]

SIR,—I have got so many little hints, and so much general and solid information from your pages since the journal was first established, that I almost feel ashamed to have received so much for such a small outlay. As it is, however, by giving and taking advice that we all get wise, I enclose a few lines on "Lost Light," which perhaps some readers may not know.

As it is the small bits of information that go to build up greater, if each reader were to contribute something of his experiences what a grand fund of knowledge we would have! Wishing the *Magic Lantern Journal* that success which it deserves—I am, yours, &c.,

JAMES ROBERTS.

Brixton, August 12.

["Lost Light" will be found on another page. We are always pleased to insert information, even if short.—ED.]

THE late premises of Horace C. Lewis and Co. (Limited) having proved too small for their increasing business, this firm has now removed to more commodious quarters at 31, Bold-street, Liverpool.

Notes and Queries.

Nix writes: "I have been trying to make lantern transparencies by the collodion process (a process in vogue before my time), and I think it is much more fascinating than dry plate work, but—there's always a 'but' about things one is unused to—in one-half of my attempts I succeed very well in washing the film off the glass. A friend suggested to rub a tallow candle along the edge of the plate. Can you oblige by telling me the best method to prepare, say, a dozen plates at a time, so that I may keep the film on?" *Reply*.—Beat up the white of an egg into a froth, and then add about a pint of water; put it in a bottle and in place of a cork insert a small funnel containing a piece of cotton wool. Now thoroughly wash your plates, pour some of the albumen into the funnel, and run the small end along the plate whilst wet, which will allow a small quantity of filtered albumen to flow over the plate, which should be held by the corner; it may then be placed in a rack (faces all one way) until dry, then piled up until they are to be coated with collodion.

James Benham.—We have read your manuscript, and are of the opinion that it will be too long when the slides are exhibited in conjunction with it. The entertainment will last about three and a-half hours; we would suggest you cut it down one-half.

Walter M. Wareham.—We presume you mean a shield round the lime itself, not the *burner*, as you state. You can obtain one from E. C. Wood, 74, Cheapside, E.C.

A. de Gruyter writes: "Kindly give me in your 'Notes and Queries' column full particulars on how to build a lantern." *Reply*.—Particulars such as you require would fill the whole of the space allotted to the answers to queries; but we expect shortly to have an article on this subject.

C. H. R.—In the following order: 4, 2, 3, 1.

H. Smart.—In our last we gave four reasons for the cause. Are you sure you have steered clear of them all? See last issue.

R. N.—The movement you speak of as having just invented has been used for some time in Fallowfield's Facile Camera. Our number for last March describes it.

P. C. writes to say he wishes to build a lantern and is looking forward to the promised particulars by "Lantern" (Tidal Basin). In the July issue, he says he will not hesitate to give particulars, &c., when finished. *Reply*.—We shall be pleased to make room in our columns for the particulars as soon as we receive them.

Binder.—Please repeat your query in another form, as we really cannot understand what it is you want to know. Ask each question separately, and we will do our best to supply the information.

A. U.—Replied by post *re* the company.

Inquirer.—1 and 2 are made by the same firm; 3 is, perhaps, in most general use, although 2 and 3 are, we think, about equal as regards capabilities, the difference (if any) being in the general outward appearance: 2 is cylindrical, whilst 3 is somewhat round. Both have a neater appearance than 1.

E. Y.—We think the lamp was patented some years ago, but will try and find out and communicate with you.

L. M.—Your communication, *re* Lantern Society, together with others, has been held over for want of space.

THE premises hitherto occupied by the Sheffield Photo Company in West Bar having proved too small for their growing business, new premises have lately been fitted up at No. 3, Fargate, Sheffield. The new sale shop has a balcony extending around. Here may be found all the latest novelties in photographic apparatus.